

10/088560

IN THE UNITED STATES DESIGNATED/ELECTED OFFICE

Title: METAL SURFACES COATED WITH FLUORINATED POLYMERS

PRELIMINARY AMENDMENT

SIR:

IN THE CLAIMS:

4. (Amended) Coated metal surface comprising, successively:
 - a layer (1) of primer placed next to the metal and comprising an epoxy primer and 1 to 70 parts of a polymer chosen from polymers L2 which are fluoropolymers chemically modified by a partial dehydrofluorination followed by an oxidation, per 30 to 99 parts, of said epoxy primer,
 - a layer (3) of fluoropolymer.
5. (Amended) A coated metal surface according to Claim 1, in which the epoxy primer is the product of the reaction of a thermosetting epoxy resin and of a hardener.
7. (Amended) A coated metal surface according to Claim 5, in which the epoxy primer has a Tg greater than 120°C.

14. (Amended) A coated metal surface according to Claim 3, in which the fluoropolymer of the layer (3) is PVDF homopolymer or a VF2-HFP copolymer having a melting point of at least 165°C.

15. (Amended) A coated metal surface according to Claim 1, in which the surface is an outer surface of a tube.

Please add the following new claims 16 - 20:

--16. A coated metal surface according to Claim 10, wherein said at least one X and X' is chlorine, fluorine or perfluoroalkyl.

--17. A coated metal surface according to Claim 1, wherein the metal is steel.

--18 A coated metal surface according to Claim 15, wherein the metal is steel.

--19. In a method of transporting oil through a tube, the improvement wherein the tube is in accordance with Claim 18.

--20. A method according to Claim 19, wherein the tube is in sea water and the oil is hot oil.

VERSION WITH MARKINGS TO SHOW CHANGES MADE

Claims 4,5,7 -10 and 12 - 15 were amended as follows:

4. (Amended) Coated metal surface comprising, successively:

- a layer (1) of primer placed next to the metal and comprising an epoxy primer and 1 to 70 parts of a polymer chosen from polymers L2 which are fluoropolymers chemically modified by a partial dehydrofluorination followed by an oxidation, per 30 to 99 parts, ~~respectively, of an~~ said epoxy primer,
- a layer (3) of fluoropolymer.

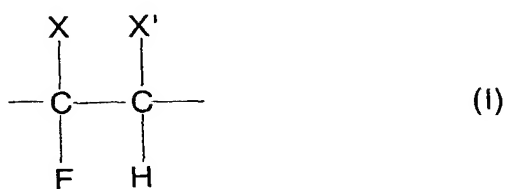
5. (Amended) A coated metal surface according to ~~any one of Claims 1 to 4~~, in which the epoxy primer is the product of the reaction of a thermosetting epoxy resin and of a hardener.

7. (Amended) A coated metal surface according to Claim 5 ~~or 6~~, in which ~~the Tg of the epoxy primer is~~ has a Tg greater than 120°C.

8. (Amended) A coated metal surface according to ~~any one of Claims 1 to 3, in which the~~ containing an acrylic polymer L1 which is a copolymer of methyl methacrylate and of acrylic acid.

9. (Amended) A coated metal surface according to ~~any one of Claims 1 to 3, in which the Tg of~~ the containing an acrylic polymer L1 is having a Tg greater than or equal to 120°C.

10. (Amended) A coated metal surface according to any one of Claims 1 to 4, in which the polymer, containing the chemically modified fluoropolymers wherein the fluoropolymer and the oil is hot oil which is chemically modified to obtain L2 is a fluoroplastic or a fluoroelastomer which contains units of general formula (I):



in which X and X' may be, independently of each other, a hydrogen atom, or a halogen, in particular ~~fluorine or chlorine~~, or a perhaloalkyl, in particular perfluoroalkyl.

~~11. Coated metal surface according to Claim 10, in which the oxidation to prepare L2 is obtained in heterogeneous aqueous medium with hydrogen peroxide (H₂O₂) or with the hypochlorite anion (ClO).-~~

12. (Amended) A coated metal surface according to any one of claims 1 to 3, in which the fluoropolymer L3 is chosen from PVDF homopolymer or and VF₂-HFP copolymers.

13. (Amended) A coated metal surface according to any one of Claims 1 to 3, in which the melting point of L3 is greater than 150°C.

